

Amendments to the Claims

Claims 1-7 (Canceled)

Claim 8 (Currently Amended) A The map display device according to claim 7, for converting externally provided communications information into an applicable object model for arrangement on a map image, said map display device comprising:

an input part for receiving an instruction from a user;

a map data storage part for storing map data;

an object model display information storage part for storing object model display information for displaying at least one object model having a shape which allows the user to understand content of the communications information on the map image;

a communications part for receiving the communications information, the communications information including information which varies in real time;

a map data arranging part for creating the at least one object model by interpreting the communications information and the object model display information provided by said object model display information storage part, and arranging the at least one object model at a position on the map image based on the communications information; and

a display part for displaying a resultant map image including the map image and the at least one object model obtained by said map data arranging part, wherein

the object model display information comprises:

information about the shape of the at least one object model; and

information about behavior in time and space of the at least one object model, and

the information about behavior in time and space of the at least one object model is described in an object-oriented interpreter language not needing compilation.

Claims 9-14 (Canceled)

Claim 15 (Currently Amended) ~~A~~ The map display device according to claim 1, further comprising for converting externally provided communications information into an applicable object model for arrangement on a map image, said map display device comprising:

an input part for receiving an instruction from a user;

a map data storage part for storing map data;

an object model display information storage part for storing object model display information for displaying at least one object model having a shape which allows the user to understand content of the communications information on the map image;

a communications part for receiving the communications information, the communications information including information which varies in real time;

a map data arranging part for creating the at least one object model by interpreting the communications information and the object model display information provided by said object model display information storage part, and arranging the at least one object model at a position on the map image based on the communications information;

a display part for displaying a resultant map image including the map image and the at least one object model obtained by said map data arranging part; and

a time information storage part for storing time information corresponding to a position of a mobile unit which moves according to a schedule on a predetermined route,

wherein said map data arranging part refers to the time information to create the at least one object model to correspond to the mobile unit for arrangement on the map image.

Claim 16 (Previously Presented) The map display device according to claim 15, wherein said map data arranging part refers to the time information to select only the at least one object model corresponding to the mobile unit to be displayed on the map image, and calculates a position of the at least one object model on the map image for data arrangement.

Claims 17-19 (Canceled)

Claim 20 (**Currently Amended**) A The-map display device-according to claim 19, for converting externally provided communications information into an applicable object model for arrangement on a map image, said map display device comprising:

an input part for receiving an instruction from a user;

a map data storage part for storing map data;

an object model display information storage part for storing object model display information for displaying at least one object model having a shape which allows the user to understand content of the communications information on the map image;

a communications part for receiving the communications information, the communications information including information which varies in real time and information specifying at least one faregate to be passed through, wherein if a predetermined condition is satisfied, said communications part transmits charge information for charge processing;

a map data arranging part for creating the at least one object model by interpreting the communications information and the object model display information provided by said object model display information storage part, and arranging the at least one object model at a position on the map image based on the communications information;

a display part for displaying a resultant map image including the map image and the at least one object model obtained by said map data arranging part; and

a ticket information storage part for storing ticket information corresponding to a ticket used for paying a fare for a predetermined chargeable section, wherein

said map data arranging part creates the at least one object model based on the communications information for arrangement on the map image, and if the predetermined condition is satisfied, generates the charge information,

said map data arranging part generates the ticket information stored in said ticket information storage part when the ticket is purchased,

the ticket information includes information about an expiration date of the ticket,
and

said map data arranging part refers to the information about the expiration date of the ticket, and if the expiration date is approaching, creates a message for display on said display part.

Claims 21-27 (Canceled)

Claim 28 (Currently Amended) A ~~The navigation device according to claim 27, for~~ converting externally provided communications information into an applicable object model for arrangement on a map image, and providing guidance to a destination, said navigation device comprising:

an input part for receiving an instruction from a user;

a position detection part for detecting a current position;

a map data storage part for storing map data;

an object model display information storage part for storing object model display information for displaying at least one object model having a shape which allows the user to understand content of the communications information on the map image;

a route selection part for selecting a route to the destination based on the instruction provided by said input part, the current position detected by said position detection part, and the map data stored in said map data storage part;

a communications part for receiving the communications information, the communications information including information which varies in real time;

a map data arranging part for creating the at least one object model by interpreting the communications information and the object model display information provided by said object model display information storage part, and arranging the at least one object model at a position on the map image based on the communications information;

a guiding part for providing the guidance to the destination in response to the communications information received by said communications part, the route selected by said route selection part, the current position detected by said position detection part, and the map data provided by said map data storage part, and outputting a resultant map

image including the map image and the at least one object model obtained by said map data arranging part; and

a display part for displaying the resultant map image outputted from said guiding part,

wherein the object model display information comprises:

information about the shape of the at least one object model; and

information about behavior in time and space of the at least one object model, and

wherein the information about behavior in time and space of the at least one object model is described in an object-oriented interpreter language not needing compilation.

Claims 29-34 (**Canceled**)

Claim 35 (**Currently Amended**) ~~A The navigation device according to claim 26, further comprising~~ for converting externally provided communications information into an applicable object model for arrangement on a map image, and providing guidance to a destination, said navigation device comprising:

an input part for receiving an instruction from a user;

a position detection part for detecting a current position;

a map data storage part for storing map data;

an object model display information storage part for storing object model display information for displaying at least one object model having a shape which allows the user to understand content of the communications information on the map image;

a route selection part for selecting a route to the destination based on the instruction provided by said input part, the current position detected by said position detection part, and the map data stored in said map data storage part;

a communications part for receiving the communications information, the communications information including information which varies in real time;

a map data arranging part for creating the at least one object model by interpreting the communications information and the object model display information provided by said object model display information storage part, and arranging the at least one object model at a position on the map image based on the communications information;

a guiding part for providing the guidance to the destination in response to the communications information received by said communications part, the route selected by said route selection part, the current position detected by said position detection part, and the map data provided by said map data storage part, and outputting a resultant map image including the map image and the at least one object model obtained by said map data arranging part;

a display part for displaying the resultant map image outputted from said guiding part; and

a time information storage part for storing time information corresponding to a position of a mobile unit which moves according to a schedule on a predetermined route,

wherein said map data arranging part refers to the time information to create the at least one object model to correspond to the mobile unit for arrangement on the map image.

Claim 36 (Previously Presented) The navigation device according to claim 35, wherein said map data arranging part refers to the time information to select only the at least one object model corresponding to the mobile unit to be displayed on the map image, and calculates a position of the at least one object model on the map image for data arrangement.

Claims 37-39 (Canceled)

Claim 40 (Currently Amended) A The navigation device according to claim 39, for converting externally provided communications information into an applicable object model for arrangement on a map image, and providing guidance to a destination, said navigation device comprising:

an input part for receiving an instruction from a user;
a position detection part for detecting a current position;
a map data storage part for storing map data;
an object model display information storage part for storing object model display information for displaying at least one object model having a shape which allows the user to understand content of the communications information on the map image;
a route selection part for selecting a route to the destination based on the instruction provided by said input part, the current position detected by said position detection part, and the map data stored in said map data storage part;
a communications part for receiving the communications information, the communications information including information which varies in real time and information specifying at least one faregate to be passed through, wherein if a predetermined condition is satisfied, said communications part transmits charge information for charge processing;
a map data arranging part for creating the at least one object model by interpreting the communications information and the object model display information provided by said object model display information storage part, and arranging the at least one object model at a position on the map image based on the communications information;
a guiding part for providing the guidance to the destination in response to the communications information received by said communications part, the route selected by said route selection part, the current position detected by said position detection part, and the map data provided by said map data storage part, and outputting a resultant map image including the map image and the at least one object model obtained by said map data arranging part;
a display part for displaying the resultant map image outputted from said guiding part; and
a ticket information storage part for storing ticket information corresponding to a ticket used for paying a fare for a predetermined chargeable section, wherein

said map data arranging part creates the at least one object model based on the communications information for arrangement on the map image, and if the predetermined condition is satisfied, generates the charge information.

said guiding part generates the ticket information stored in said ticket information storage part when the ticket is purchased,

the ticket information includes information about an expiration date of the ticket, and

said map data arranging part refers to the information about the expiration date of the ticket, and if the expiration date is approaching, creates a message for display on said display part.

Claims 41-44 (Canceled)

Claim 45 (Currently Amended) A ~~The navigation device according to claim 44,~~ for converting externally provided communications information into an applicable object model for arrangement on a map image, and providing guidance to a destination, said navigation device comprising:

an input part for receiving an instruction from a user;

a position detection part for detecting a current position;

a map data storage part for storing map data;

an object model display information storage part for storing object model display information for displaying at least one object model having a shape which allows the user to understand content of the communications information on the map image;

a route selection part for selecting a route to the destination based on the instruction provided by said input part, the current position detected by said position detection part, and the map data stored in said map data storage part;

a communications part for receiving the communications information, the communications information including information which varies in real time;

a map data arranging part for creating the at least one object model by interpreting the communications information and the object model display information provided by

said object model display information storage part, and arranging the at least one object model at a position on the map image based on the communications information;

a guiding part for providing the guidance to the destination in response to the communications information received by said communications part, the route selected by said route selection part, the current position detected by said position detection part, and the map data provided by said map data storage part, and outputting a resultant map image including the map image and the at least one object model obtained by said map data arranging part; and

a display part for displaying the resultant map image outputted from said guiding part, wherein

said communications part receives the communications information including position information about any available vehicles moving according to a schedule on predetermined routes, and when the user desires to take one of the available vehicles, transmits selected vehicle information including information for specifying which of the available vehicles the user desires to take,

said guiding part generates the selected vehicle information when the user desires to take one of the available vehicles, and

said guiding part compares, at least, the predetermined routes on which the available vehicles move with the route to the destination selected by said route selection part, and determines whether the available vehicles are appropriate.

Claims 46-51 (Canceled)

Claim 52 (Currently Amended) A The-map display method according to claim 48, for converting externally provided communications information into an applicable object model for arrangement on a map image, said map display method comprising:

an input process of receiving an instruction from a user;

a communications process of receiving the communications information, the communication information including information which varies in real time;

a map data arranging process of creating at least one object model having a shape which allows the user to understand content of the communications information by interpreting the communications information and corresponding object model display information for displaying the at least one object model at a position on the map image based on the communications information; and

a display process of displaying a resultant map image including the map image and the at least one object model obtained in said map data arranging process,

wherein said map data arranging process comprises creating the at least one object model corresponding to a mobile unit for arrangement on the map image by referring to time information corresponding to a position of the mobile unit moving on a predetermined route according to a schedule.

Claims 53-59 (**Canceled**)

Claim 60 (**Currently Amended**) A ~~The map display device according to claim 1,~~ for converting externally provided communications information into an applicable object model for arrangement on a map image, said map display device comprising:

an input part for receiving an instruction from a user;

a map data storage part for storing map data;

an object model display information storage part for storing object model display information for displaying at least one object model having a shape which allows the user to understand content of the communications information on the map image;

a communications part for receiving the communications information, the communications information including information which varies in real time;

a map data arranging part for creating the at least one object model by interpreting the communications information and the object model display information provided by said object model display information storage part, and arranging the at least one object model at a position on the map image based on the communications information; and

a display part for displaying a resultant map image including the map image and the at least one object model obtained by said map data arranging part, wherein

the communications information includes information indicating a frozen road, and

said map data arranging part arranges the at least one object model representing icy conditions in a region of the image map corresponding to the frozen road, the at least one object model being a 3D model.

Claim 61 (Currently Amended) ~~A~~ The map display according to claim 1, for converting externally provided communications information into an applicable object model for arrangement on a map image, said map display device comprising:

an input part for receiving an instruction from a user;

a map data storage part for storing map data;

an object model display information storage part for storing object model display information for displaying at least one object model having a shape which allows the user to understand content of the communications information on the map image;

a communications part for receiving the communications information, the communications information including information which varies in real time;

a map data arranging part for creating the at least one object model by interpreting the communications information and the object model display information provided by said object model display information storage part, and arranging the at least one object model at a position on the map image based on the communications information; and

a display part for displaying a resultant map image including the map image and the at least one object model obtained by said map data arranging part, wherein

the communications information includes traffic jam information indicating a jammed road, and

said map data arranging part arranges the at least one object model representing a traffic jam in a region of the image map corresponding to the jammed road, the at least one object model being a 3D model.

Claim 62 (Currently Amended) The map display device according to claim 61, wherein said map data arranging part arranges a plurality of object models representing vehicles

in the region of the image map corresponding to the jammed road, the plurality of object models being 3D models.

Claim 63 (Currently Amended) A The map display device according to claim 1, for converting externally provided communications information into an applicable object model for arrangement on a map image, said map display device comprising:

an input part for receiving an instruction from a user;

a map data storage part for storing map data;

an object model display information storage part for storing object model display information for displaying at least one object model having a shape which allows the user to understand content of the communications information on the map image;

a communications part for receiving the communications information, the communications information including information which varies in real time;

a map data arranging part for creating the at least one object model by interpreting the communications information and the object model display information provided by said object model display information storage part, and arranging the at least one object model at a position on the map image based on the communications information; and

a display part for displaying a resultant map image including the map image and the at least one object model obtained by said map data arranging part, wherein

the communications information includes under-construction information including information indicating a road under construction, and

said map data arranging part arranges the at least one object model representing construction in a region of the map image corresponding to the road under construction.

Claim 64 (Previously Presented) The map display device according to claim 63, wherein said map data arranging part arranges a plurality of object models representing construction workers in the region of the map image corresponding to the road under construction.

Claim 65 (Currently Amended) ~~A The map display device according to claim 1, for~~ converting externally provided communications information into an applicable object model for arrangement on a map image, said map display device comprising:

an input part for receiving an instruction from a user;

a map data storage part for storing map data;

an object model display information storage part for storing object model display information for displaying at least one object model having a shape which allows the user to understand content of the communications information on the map image;

a communications part for receiving the communications information, the communications information including information which varies in real time;

a map data arranging part for creating the at least one object model by interpreting the communications information and the object model display information provided by said object model display information storage part, and arranging the at least one object model at a position on the map image based on the communications information; and

a display part for displaying a resultant map image including the map image and the at least one object model obtained by said map data arranging part, wherein

the communications information includes accident information including information indicating a site of an accident, and

said map data arranging part arranges the at least one object model representing a traffic accident in a region of the map image corresponding to the site of the accident, the at least one object model being a 3D model.

Claim 66 (Currently Amended) ~~A The map display device according to claim 65, for~~ converting externally provided communications information into an applicable object model for arrangement on a map image, said map display device comprising:

an input part for receiving an instruction from a user;

a map data storage part for storing map data;

an object model display information storage part for storing object model display information for displaying at least one object model having a shape which allows the user to understand content of the communications information on the map image;

a communications part for receiving the communications information, the communications information including information which varies in real time;

a map data arranging part for creating the at least one object model by interpreting the communications information and the object model display information provided by said object model display information storage part, and arranging the at least one object model at a position on the map image based on the communications information; and
a display part for displaying a resultant map image including the map image and the at least one object model obtained by said map data arranging part, wherein

the communications information includes accident information including information indicating a site of an accident, and

said map data arranging part arranges the at least one object model representing a wrecked vehicle in a the region of the map image corresponding to the site of the accident.

Claim 67 (Currently Amended) A The map display device according to claim 1, for converting externally provided communications information into an applicable object model for arrangement on a map image, said map display device comprising:

an input part for receiving an instruction from a user;

a map data storage part for storing map data;

an object model display information storage part for storing object model display information for displaying at least one object model having a shape which allows the user to understand content of the communications information on the map image;

a communications part for receiving the communications information, the communications information including information which varies in real time;

a map data arranging part for creating the at least one object model by interpreting the communications information and the object model display information provided by said object model display information storage part, and arranging the at least one object model at a position on the map image based on the communications information; and

a display part for displaying a resultant map image including the map image and the at least one object model obtained by said map data arranging part, wherein

the communications information includes information indicating availability of a the specific parking lot, and

said map data arranging part arranges the at least one object model representing the availability in a region of the map image corresponding to the specific parking lot, the at least one object model being a 3D model.

Claim 68 (Currently Amended) A The map display device according to claim 67, for converting externally provided communications information into an applicable object model for arrangement on a map image, said map display device comprising:

an input part for receiving an instruction from a user;

a map data storage part for storing map data;

an object model display information storage part for storing object model display information for displaying at least one object model having a shape which allows the user to understand content of the communications information on the map image;

a communications part for receiving the communications information, the communications information including information which varies in real time;

a map data arranging part for creating the at least one object model by interpreting the communications information and the object model display information provided by said object model display information storage part, and arranging the at least one object model at a position on the map image based on the communications information; and

a display part for displaying a resultant map image including the map image and the at least one object model obtained by said map data arranging part, wherein

the communications information includes information indicating availability of a specific parking lot, and

said map data arranging part arranges a plurality of object models representing vehicles in a the region of the map image corresponding to the specific parking lot.

Claim 69 (Canceled)

Claim 70 (**Currently Amended**) A ~~The~~ map display device according to claim 19, for converting externally provided communications information into an applicable object model for arrangement on a map image, said map display device comprising:

an input part for receiving an instruction from a user;

a map data storage part for storing map data;

an object model display information storage part for storing object model display information for displaying at least one object model having a shape which allows the user to understand content of the communications information on the map image;

a communications part for receiving the communications information, the communications information including information which varies in real time and information specifying at least one faregate to be passed through, wherein if a predetermined condition is satisfied, said communications part transmits charge information for charge processing;

a map data arranging part for creating the at least one object model by interpreting the communications information and the object model display information provided by said object model display information storage part, and arranging the at least one object model at a position on the map image based on the communications information;

a display part for displaying a resultant map image including the map image and the at least one object model obtained by said map data arranging part; and

a ticket information storage part for storing ticket information corresponding to a ticket used for paying a fare for a predetermined chargeable section, wherein

said map data arranging part creates the at least one object model based on the communications information for arrangement on the map image, and if the predetermined condition is satisfied, generates the charge information,

said map data arranging part generates the ticket information stored in said ticket information storage part when the ticket is purchased, and

said map data arranging part changes the communications information based on the ticket information.

Claim 71 (**Canceled**)

Claim 72 (**Currently Amended**) A The navigation device according to claim 39, for converting externally provided communications information into an applicable object model for arrangement on a map image, and providing guidance to a destination, said navigation device comprising:

an input part for receiving an instruction from a user;

a position detection part for detecting a current position;

a map data storage part for storing map data;

an object model display information storage part for storing object model display information for displaying at least one object model having a shape which allows the user to understand content of the communications information on the map image;

a route selection part for selecting a route to the destination based on the instruction provided by said input part, the current position detected by said position detection part, and the map data stored in said map data storage part;

a communications part for receiving the communications information, the communications information including information which varies in real time and information specifying at least one faregate to be passed through, wherein if a predetermined condition is satisfied, said communications part transmits charge information for charge processing;

a map data arranging part for creating the at least one object model by interpreting the communications information and the object model display information provided by said object model display information storage part, and arranging the at least one object model at a position on the map image based on the communications information;

a guiding part for providing the guidance to the destination in response to the communications information received by said communications part, the route selected by said route selection part, the current position detected by said position detection part, and the map data provided by said map data storage part, and outputting a resultant map image including the map image and the at least one object model obtained by said map data arranging part;

a display part for displaying the resultant map image outputted from said guiding part; and

a ticket information storage part for storing ticket information corresponding to a ticket used for paying the fare for the predetermined chargeable section, wherein

said map data arranging part creates the at least one object model based on the communications information for arrangement on the map image, and if the predetermined condition is satisfied, generates the charge information,

said guiding part generates the ticket information stored in said ticket information storage part when the ticket is purchased, and

said guiding part changes the communications information based on the ticket information.

Claim 73 (Canceled)